

CLAIMS

1. A process comprising:

determining the number and type of each of a plurality of components comprising a device;

determining a component power consumption for each of the plurality of components; and

determining a device power consumption by summing the component power consumptions of all of the plurality of components.

2. The process of claim 1 wherein the component power consumption comprises an actual power consumption of each of the plurality of components in the device.

3. The process of claim 2, further comprising multiplying the device power consumption by a safety margin factor.

4. The process of claim 1 wherein the component power consumption comprises an actual power consumption of each of the plurality of components in the device multiplied by one or both of a de-rating factor the reciprocal of a voltage regulator efficiency.

5. The process of claim 1 wherein the component power consumption comprises a maximum power consumption of its type for each of the plurality of components in the device.

6. The process of claim 1 wherein the component power consumption comprises an actual power consumption for those components whose power consumption exceeds a threshold power, and a maximum power consumption for those components whose power consumption does not exceed the threshold power.

7. The process of claim 1, further comprising communicating the device power consumption to an end user.
8. The process of claim 7 wherein communicating the device power consumption comprises printing the device power consumption on a label and attaching the label to the device.
9. The process of claim 7 wherein communicating the device power consumption comprises including with the device software that determines the device configuration and the device power consumption.
10. The process of claim 7 wherein communicating the device power consumption comprises furnishing a web site where the end user can compute the power consumption.
11. An article of manufacture, comprising:
 - a machine-readable medium having instructions stored thereon to:
 - determine the number and type of each of a plurality of components comprising a device;
 - determine a component power consumption for each of the plurality of components; and
 - determine a device power consumption by summing the component power consumptions of all of the plurality of components.
12. The article of manufacture of claim 11 wherein the instructions to determine a component power consumption comprise instructions to determine an actual power consumption of each of the plurality of components in the device.
13. The article of manufacture of claim 12 wherein the instructions further include instructions to multiply the device power consumption by a safety margin factor.

14. The article of manufacture of claim 11 wherein the instructions to determine a component power consumption comprise instructions to determine an actual power consumption of each of the plurality of components and instructions to multiply the actual power consumption by one or both of a de-rating factor and the reciprocal of a voltage regulator efficiency.
15. The article of manufacture of claim 11 wherein the instructions to determine a component power consumption comprise instructions to determine a maximum power consumption of its type for each of the plurality of components in the device.
16. The article of manufacture of claim 11 wherein the instructions to determine the component power consumption comprise instructions to determine an actual power consumption for those components whose power consumption exceeds a threshold power, and a maximum power consumption for those components whose power consumption does not exceed the threshold power.
17. The article of manufacture of claim 11, further comprising instructions to communicate the device power consumption to an end user.
18. The article of manufacture of claim 17 wherein the instructions to communicate the device power consumption comprise instructions to print the device power consumption on a label and attach the label to the device.
19. The article of manufacture of claim 17 wherein the instructions to communicate the device power consumption comprise instructions that allow the device to determine its configuration and power consumption.
20. The article of manufacture of claim 17 wherein the instructions to communicate the device power consumption comprise instructions on a web site that allows the end user to compute the power consumption.
21. A system comprising:

a plurality of devices installed in a rack, wherein each device comprises a plurality of components;

a power supply connected to the rack and adapted to deliver power to the plurality of devices; and

a cooling unit adapted to remove thermal energy from the devices in the rack, wherein the capacities of the power supply and the cooling unit are determined by

determining the number and type of each of the plurality of components comprising each of the plurality of devices,

determining a component power consumption for each of the plurality of components,

determining a device power consumption for each device by summing the component power consumptions of all of the plurality of components, and

determining a rack power consumption by summing the device power consumptions for all of the plurality of devices.

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22. The system of claim 21 wherein the component power consumption comprises an actual power consumption of each of the plurality of components in the device.
23. The system of claim 22, wherein each device power consumption is multiplied by a safety margin factor.
24. The system of claim 21 wherein the component power consumption comprises an actual power consumption of each of the plurality of components in the device multiplied by one or both of a de-rating factor and the reciprocal of a voltage regulator efficiency.
25. The system of claim 21 wherein the component power consumption comprises a maximum power consumption of its type for each of the plurality of components in the device.

26. The system of claim 21 wherein the component power consumption comprises an actual power consumption for those components whose power consumption exceeds a threshold power, and a maximum power consumption for those components whose power consumption does not exceed the threshold power.
27. The system of claim 21 further comprising a label attached to the device, wherein the label has the device power consumption printed thereon.